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10/781,164

02/18/2004

Willem L. Repko

23468

1804

24932 7590 10/25/2007  
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EXAMINER

CHO, HONG SOL

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

10/25/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

*Supplemental*  
**Notice of Allowability**

Application No.

10/781,164

Examiner

Hong Cho

Applicant(s)

REPKO ET AL.

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Lawrence Laubscher on 08/14/2007.

The application has been amended as follows:

Claims 1, 2, 14, and 15, "said expected delay" has been changed to - - said predicted delay - -.

Claim 3, line 1, "claim 1" has been changed to - - claim 2 - -.

Claim 3, line 1, "said defined parameters" has been changed to - - said predefined values - -.

Claims 11 and 24, "said expected value" has been changed to - - said predicted delay- -.

Claim 16, line 1, "claim 14" has been changed to - - claim 15 - -.

Claim 16, line 1, "said defined parameters" has been changed to - - said predefined values - -.

The examiner's amendment was made to correct lack of antecedent basis for the above claims.

*Reasons for Allowance*

2. Claims 1-26 are allowed.
3. The following is an examiner's statement of reasons for allowance:

Claim 1 is allowable over the prior art of record since the cited reference taken individually or in combination fails to particularly disclose aligning clock domains over an asynchronous network between a source controlled by a first clock and a destination controlled by a second clock by a) estimating a predicted delay for transmitting packets between a source and destination over the network, b) sending time-stamped synchronization packets to the destination, each time-stamped synchronization packet carrying timing information based on a master clock at the source, c) receiving a set of synchronization packets at the destination to create a set of data points, d) weighting the set of data points so that synchronization packets exhibiting a delay further from the predicted delay are accorded less weight than synchronization packets exhibiting a delay closer to the predicted delay; e) updating the predicted delay to create a current delay estimate based on the set of data points taking into account the different weighting of the data points, f) continually repeating steps d and e on new sets of data points created from newly received synchronization packets using the current delay estimate for the predicted delay; and g) continually aligning a clock domain at the destination with a clock domain at the source based on the current delay estimate for packets traversing the network between the source and destination.

Claim 14 is allowable over the prior art of record since the cited reference taken individually or in combination fails to particularly disclose aligning clock domains over an asynchronous network between a source controlled by a first clock and a destination controlled by a second clock, by a) a predictor for predicting the delay expected for packets traversing the

network between a source and destination, b) a sender for sending time-stamped synchronization packets to the destination, each time-stamped synchronization packet carrying timing information based on a master clock at the source, c) a receiver for receiving a set of synchronization packets at the destination to create a set of data points, d) a non-linear filter for weighting the set of data points so that synchronization packets exhibiting a delay further from the predicted delay are accorded less weight than synchronization packets exhibiting a delay closer to the predicted delay, e) the predictor updating the predicted delay to create a current delay estimate based on the set of data points taking into account the different weighting of the data points; whereby the clock domain at the destination can be continually aligned with a clock domain at the source based on the current delay estimate for packets traversing the network between the source and destination.

### *Conclusion*

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Cho whose telephone number is 571-272-3087. The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on 571-272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

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Hong Cho  
Patent Examiner  
10/22/07

  
WING CHAN 10/23/07  
SUPERVISORY PATENT EXAMINER